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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/709,006  
Filing Date: April 07, 2004  
Appellant(s): HUANG ET AL.

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Belinda Lee  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 4/23/2009 appealing from the Office action mailed 12/17/2008.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

No evidence is relied upon by the examiner in the rejection of the claims under appeal.

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Rejections Under 35 U.S.C. 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

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Re claim 1 Claims 1 states "...executing a debug analysis comprising syntax and semantics pre-check on the entire compressed image after the entire compressed image having been received". Applicant only mentions references the "entire compressed image" once in paragraph 27. However one of ordinary skill in the art would not interpret the invention as described in the specification to be limited in this manner. Paragraph 27 States "In other words, the debug analysis is performed on the entire compressed image picture first, and when the result of the debug analysis indicates that there is no error data, it is determined that the compressed image picture is suitable for the subsequent decoding operation." This paragraph only implies the debug analysis is preformed on the entire compressed image before the compressed data is decoded, this can also be seen in figure 3 where the analyzing is completed prior to the pipelined decoding process. However nowhere in the specification does it recite or imply that the entire performing debug analysis on the entire compressed image is preformed after the entire compressed image picture having been received. The examiner suggests the following amendment to amend claim 1 to recite the feature of paragraph 27 and figure 3 " *...pre-check on the entire compressed image picture prior to beginning any subsequent decoding operation...*".

Re claim 3 Similar to claim 1 there is no evidence to suggest that the "entire compressed image" should be reloaded. Although reloading the compressed image is disclosed this does not imply that the "entire compressed image be reloaded", it is common in the art to reload an image by reloading only a corrupted part or other subset

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of the image. There is nothing in applicant's specification to suggest that in applicant's invention the entire image should be reloaded to reload the compressed image.

Re claim 4 Similar to claim 3 there is no evidence to suggest that a determination is made based upon if there is sufficient time for reloading the entire compressed image. Again there is no implication that the entire compressed image must be reloaded to reload the image.

Re claim 5 claims 5 have similar problems as claim 4.

Re claims 2 and 6 these claims contain new matter because they depend from claim 1.

Re claims 7-12 these claims correspond to the method preformed by the apparatus of claims 1-6, claims 7-12 are likewise rejected.

### ***Rejections Under 35 U.S.C. 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 1, 2, 4, 5, 7, 8, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Den Branden EP 1056297 in view of admitted prior art (APA).

Re claim 1 Van Den Branden discloses An image decompressing circuit, comprising: a variable length decoding unit ( video decoder paragraph 69), for receiving a compressed image picture (retrieve frame paragraph 69) and executing a debug analysis (examining marker bits paragraph 59) syntax and semantics (paragraph 69 and 70 note marker bits include markers indicating syntax and semantic errors also see paragraphs 62 and 63) pre-check on the entire compressed image picture ( paragraph 70 note the entire frame is checked in the embodiment when system decoder 720 can detect syntax errors no further error check is necessary also see figure 9 and note the syntax check is steps 930 and 940 is unnecessary if these errors have already been flagged and checked in step 920 paragraph column 24 lines 18-29) after the entire compressed image picture having been received (retrieve frame paragraph 69 figure 9 step 910), wherein when a result of the debug analysis indicates that the entire compressed image picture is suitable for a subsequent decoding operation ( marker bit does not indicate an error paragraph 70 also see figure 9 steps 920 and 930 and note the syntax check is steps 930 and 940 is unnecessary if these errors have already been flagged paragraph 70 column 24 lines 18-29 ) executing a decoding process (paragraph 70) on the compressed picture;

Van Den Branden does not specifically disclose executing a decoding process in pipeline on the compressed image picture, An image picture recovery unit, electrically

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coupled to the variable length decoding unit, for performing an inverse quantization, an inverse discrete cosine transformation and a motion compensation with a pipeline process after the compressed image picture has been decoded with the pipeline process, so as to recover the compressed image picture. The APA discloses, executing a decoding process in pipeline on the compressed image picture (background paragraph 6), An image picture recovery unit (paragraph 6), electrically coupled to the variable length decoding unit, for performing an inverse quantization (paragraph 6), an inverse discrete cosine transformation (paragraph 6) and a motion compensation (paragraph 6) with a pipeline process after the compressed image picture has been decoded with the pipeline process (paragraph 6), so as to recover the compressed image picture. The motivations to combine are to that these processes are necessary in MPEG decoding and pipeline processing well known to increase processing speed. Therefore it would have been obvious to combine the APA with Van Den Branden.

Re claim 2 Van Den Branden further discloses wherein when the variable length decoding unit performs the debug analysis on the entire compressed image picture and finds no error data ( marker bit does not indicate an error paragraph 70), the entire compressed image picture is determined suitable for the subsequent decoding operation (note when there is no error decoding continues paragraph 70).

Re claim 4 Van Den Branden further discloses wherein when the variable length decoding unit performs the debug analysis on the entire compressed image picture and

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finds more than a predetermined number of the error data (extent of error paragraph 79 column 27 line 25 the extent of the error is thresholded to a few bytes) and there is no sufficient time to reload the compressed image picture, the entire compressed image picture is aborted (decoding is not attempted paragraph 79 resumes decoding at the next image (i.e. erroneous data is the entire image) paragraph 75).

Re claim 5 Van Den Branden further discloses wherein when the variable length decoding unit performs the debug analysis on the entire compressed image picture and finds less than a predetermined number of the error data (extent of damage paragraph 79 column 27 line 25 the extent of the error is thresholded to a few bytes) and there is no sufficient time to reload the compressed image picture, the compressed image entire picture is determined suitable for the subsequent decoding operation (paragraph 79 decode the erroneous data paragraph 75 note the erroneous data can be the entire picture).

Re claims 7, 8, 10 and 11 these claims correspond to the method preformed by the apparatus of claims 1, 2, 4, and 5 claims 7, 8, 10 and 11 are likewise rejected

Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Den Branden in view of Lavalley et al US 5,267,242.

Re claim 6 Van Den Branden discloses all of the elements of claim 1 Van Den Branden does not disclose wherein the variable length decoding unit can selectively turn on or

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turn off the debug analysis (ECC logic column 5 lines 5-10) function for the compressed image picture. Lavalley discloses selectively turn on or turn off (column 5 lines 5-10) the debug analysis function for the data. The motivation to combine is that "the ECC logic can be enable or disabled" (see column 5 lines 5-10).

Re claim 12 this claim is the method performed by the apparatus in claim 5 and is likewise rejected. (See rejection for claim 6).

### **(10) Response to Argument**

Regarding claim 1 on pages 3 and 4 applicant argues:

Appellant submits that the "in other words, the debug analysis is performed on the entire compressed image picture first, and when the result of the debug analysis indicates that there is no error data, it is determined that the compressed image picture is suitable for the subsequent decoding operation" (Spec paragraph 27) should be understood in view of the sentence before, which recites: "In the present invention the variable length decoding unit 210 in the diagram performs syntax and semantics pre-check after the compressed image picture has been received" (Spec paragraph 27, emphasis added).

When a part of the compressed image picture has been received, but the rest of the compressed image picture has not, the entire compressed image picture won't be ready for performing the debug analysis, just as one cannot view an entire picture when only a half of the picture has been downloaded from the internet to your computer. Only after the entire compressed image picture has been received can a debug analysis be performed on the entire compressed image picture as set forth in claim 1. After the compressed image picture has been received would be unambiguously understood by those skilled in the art as after the entirety of the compressed image picture has been received, so that the next step, i.e., the debug analysis, can be performed on the entire compressed image picture.

The examiner notes that the entire compressed image does not need to be ready for debug analysis prior to starting debug analysis. Debug analysis could be performed on a first portion of the compressed image without having received a second then receiving a second portion and performing the debug analysis on that portion. In this case debug

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analysis of first portion of the compressed image is performed prior to receipt of the entire compressed image. This would mean that debug analysis is not performed on the entire compressed image after the entire compressed image has been received. The specification does not specify whether or not the entire compressed image is received prior to performing debug analysis on the entire image. The cited portions of paragraph 27 are depicted in figure 3 which shows that debug analysis is performed on the entire compressed image prior to beginning the pipelined decoding process as opposed to the prior art method of figure 1 which performs debug analysis on each block individually as part of a pipelined decoding process. Paragraph 27 is describing relation of the debug analysis to the decoding and that the entire compressed image must have a "pre check" prior to performing any decoding, such that processing time is not decoding corrupted portions of the data stream. This paragraph no way discloses that debug analysis on the entire compressed image is performed after the entire compressed image has been received.

Regarding claim 3 on page 13 argues applicant argues:

Claim 3 recites the limitation of "wherein when the variable length decoding unit performs the debug analysis on the entire compressed image picture and finds an error data, the entire compressed image picture is reloaded, so as to perform the debug analysis on the entire compressed image picture again".

Paragraph 29 teaches: "when error data is found, the compressed image picture is reloaded, and the debug analysis is preformed on the compressed image picture again" (Spec paragraph 29). Appellant submits that only when the entire compressed image picture is reloaded, can the debug analysis be performed on the compressed image picture again. Otherwise, when only a corrupted part is reloaded as instructed by the Examiner, it would be the reloaded corrupted part, instead of the compressed image picture, which is to be performed with the debug analysis again, which is illogical.

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Applicant is essentially arguing that the "entire compressed image is reloaded" is disclosed because if applicant discloses "compressed image". "the compressed image is reloaded" is broader than "the entire compressed image is reloaded" and for example "corrupted part is reloaded". There is no reason why some part of the image (e.g. the corrupted part or the corrupted part plus a surrounding portion which could not be resynchronized or some other portion) could be reloaded and then debug analysis could be performed on the reloaded part of the entire part. Either way there is no reference to the entire compressed image in either scenario, and the specification does not specify whether the entire compressed image or just a portion of the entire compressed image is reloaded nor if the entire image undergoes debug analysis again or just a reloaded portion.

Regarding claim 1 with respect to the prior art applicant argues:

The Examiner interprets "examining marker bits" as the debug analysis required by Applicant's claimed invention. However, as Applicant has explained at length in the Reply to Office Action (ROA) dated October 8, 2008, "examining marker bits" is not the debug analysis because the debug analysis is further restricted as comprising syntax and semantics pre-check on the entire compressed image picture (ROA page 6-10).

The Examiner notes that "examining marker bits" does constitute a syntax and semantics precheck. Applicant has failed to consider what these marker bits represent. The marker bits are flagged errors in the syntax and semantics (paragraphs 62 and 63) which have been detected. Errors are flagged by system decoder 720 (paragraph 68 column 23 lines 10-25) and marked by marker bits and then checked by video decoder

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730 (column 35-50). Checking these marker bits is therefore a semantics and syntax precheck because it is checking for syntax and semantics errors flagged by the marker bits.

Regarding claim 1 with respect to the prior art applicant further argues:

The Examiner contends that: "applicants should refer to paragraph 69 and 70" (FOA page 4-5, paragraph 7). In paragraph 70, Van Den Branden teaches: "at step 930, the audio or video decoder 730, 740 decodes the first portion of bitstream data in the frame of audio or video bitstream data and checks the syntax of the audio and video bitstreams 727, 737 to detect the presence of lost or corrupted bitstream data" (Van Den Branden Column 24, lines 13-18). The syntax check is taught to be performed on the first portion of the bitstreams 727, 737, and clearly is not performed on an entire compressed image picture. Further, it can be seen from Van Den Branden's teaching that the decoding and syntax checking are simultaneously performed. However, the claimed invention requires "wherein when a result of the debug analysis indicates that the entire compressed image picture is suitable for a subsequent decoding operation, executing a decoding process in pipeline on the compressed image picture" (Claim 1), and therefore, the claimed invention requires the decoding operation to be performed subsequent to the debug analysis upon the result of the debug analysis.

Applicant is here citing the on section of paragraph 70 (column 24 lines 13-18) *which does not apply to the examiners rejections*, while failing consider to the second section of paragraph 70, *which corresponds to lines 18-29 of column 24*. In section cited by applicant the syntax errors are checked during decoding piece by piece, however in the section relied upon by the examiner, this check is not necessary because syntax errors were already checked in the precheck by examining the marker bits supplied by system decoder 720). Regarding applicants comment regarding "wherein when a result of the debug analysis indicates that the entire compressed image picture is suitable for a subsequent decoding operation" in the embodiment relied upon by the examiner when no errors are found in step 920 (see figure 9) the frame is deemed suitable for decoding

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because the checking of syntax in steps 930 and 940 is unnecessary because the system decoder 720 has already flagged these errors (paragraph 70 column 24 lines 19-25). Therefore if no errors are found in step 920 the system performs no further error checks are performed and the entire frame is decoded (i.e. suitable for decoding) because all the error checks were performed by examining the marker bits.

Regarding claims 4 and 5 applicant argues:

Similarly for Claim 4, paragraphs 79 and 75 of Van Den Branden do not disclose "wherein when the variable length decoding unit performs the debug analysis on the entire compressed image picture and finds more than a predetermined number of the error data" because Applicant's debug analysis is performed on the entire compressed image picture. Paragraphs 79 and 75 of Van Den Brandon also fail to disclose Claim 5 because "less than a predetermined number of error data" is determined according to the entire compressed image picture, and paragraph 75 of Van Den Brandon fails to say this.

Debug analysis is performed on the entire compressed image (see above arguments).

Regarding claim 5 paragraph 75 column 27 line 25 discloses that the number of lost/corrupted/delayed bytes is thresholded to "a few bytes" to determine whether to attempt when displayed in real time (i.e. no time to reload).

### **(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

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For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Sean Motsinger/

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